

**STATE OF HAWAII**  
**DEPARTMENT OF HEALTH**  
P. O. Box 3378  
Honolulu, HI 96801-3378  
doh.testimony@doh.hawaii.gov

**Testimony in SUPPORT of HB0444-HD1**  
**RELATING TO ONSITE NON-POTABLE WATER REUSE SYSTEMS**

SENATOR MIKE GABBARD, CHAIR  
SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT  
Hearing Date: March 27, 2019 Room Number: CR 224

1 **Fiscal Implications:** None.

2 **Department Testimony:** The Department of Health (Department) supports this measure with  
3 comments. The Department has regulations for the treatment of domestic wastewater for onsite  
4 water reuse. The National Blue Ribbon Commission's guidance expands the treatment to  
5 include other non-potable waters such as stormwater and roof runoff. Given the complexity of  
6 promulgating rules for an expanded program and the need to consult with affected parties, the  
7 process to adopt new rule amendments will likely require two to three years to complete. Based  
8 on current resources, the Department could possibly adopt rules for onsite non-potable water  
9 reuse system based on the National Blue Ribbon Commission's guidance, but would likely need  
10 until January 1, 2022 to complete the task effectively.

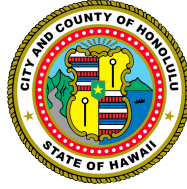
11 **Offered Amendments:** Revise the date in Section 1, Page 3, Line 12 and Section 2, Line 14  
12 from January 1, 2021 to January 1, 2022.

13 Thank you for the opportunity to testify on this measure.

OFFICE OF CLIMATE CHANGE, SUSTAINABILITY AND RESILIENCY

**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 9<sup>TH</sup> FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-2277 • EMAIL: [resilientoahu@honolulu.gov](mailto:resilientoahu@honolulu.gov) • INTERNET: [www.resilientoahu.org](http://www.resilientoahu.org)



KIRK CALDWELL  
MAYOR

JOSHUA W. STANBRO  
EXECUTIVE DIRECTOR &  
CHIEF RESILIENCE OFFICER

WEDNESDAY, MARCH 27, 2019 1:46PM

STATE OF HAWAII  
COMMITTEE ON AGRICULTURE & ENVIRONMENT

**TESTIMONY ON HOUSE BILL 444 HD1  
A BILL RELATING TO ONSITE NON-POTABLE WATER REUSE SYSTEMS**

BY,

JOSHUA STANBRO  
EXECUTIVE DIRECTOR AND CHIEF RESILIENCE OFFICER  
OFFICE OF CLIMATE CHANGE, SUSTAINABILITY AND RESILIENCY

Dear Chair Gabbard, Vice Chair Ruderman and Members of the Committee:

The City and County of Honolulu (City) Office of Climate Change, Sustainability and Resiliency (Resilience Office) **supports** House Bill 444 HD1, which requires the state Department of Health to adopt rules for onsite non-potable water reuse systems by January 1, 2021.

Among the many City Charter-required tasks of the Resilience Office, we are responsible for developing or coordinating City policies and programs that will improve environmental performance of city operations; report performance in meeting sustainability and environmental targets; and advance environmental priorities, and coordinate with federal and state agencies regarding climate change, sustainability and the environment. Water reuse is important to achieving the goals set forth in the Hawaii'i Fresh Water Initiative, and for the environmental performance of both public and private projects and districts.

With continued state projects, and City and private Transit-Oriented Development, it is critical to facilitate water reuse practices via codes and rules to ensure we do not miss opportunities to progress on the Hawaii'i Fresh Water Initiative and the perpetuation of wise use of our precious water resources.

Thank you for the opportunity to testify.

## BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843  
www.boardofwatersupply.com



March 27, 2019


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Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.  
Deputy Manager and Chief Engineer 

The Honorable Mike Gabbard, Chair  
and Members  
Committee on Agriculture and Environment  
Hawaii State Capitol, Room 224  
Honolulu, Hawaii 96813

Dear Chair Gabbard and Members:

Subject: House Bill No. 444, House Draft 1, Relating to Onsite Non-Potable Water Reuse Systems

The Honolulu Board of Water Supply (BWS) supports the intent of House Bill (HB) 444, House Draft (HD) 1, however the issues of onsite non-potable water reuse systems are complex and should be explored more carefully. Section 2 of the bill requires the Department of Health (DOH) to adopt administrative rules for onsite non-potable water reuse systems based on the National Blue Ribbon Commission for Onsite Non-potable Water Systems, "A Guide for Developing and Implementing Regulations for Onsite Non-Potable Water Systems."

Currently, the State and Counties have struggled to adopt the updated 2016 or 2018 Uniform Plumbing Codes (UPC) that establish codes for onsite non-potable water use, opting instead to continue to follow the antiquated 2006 UPC. The adoption of both the updated UPC and administrative rules need to occur to develop onsite non-potable water reuse systems.

The BWS appreciates the efforts of the DOH Water Reuse Task Force in identifying the barriers and solutions to expanding water reuse in the State of Hawaii. We agree with the Department of Health's testimony that more time is needed to promulgate rules for onsite reuse. The BWS will continue to support the DOH to expand reuse on Oahu.

Thank you for the opportunity to provide follow up testimony on HB 444, HD1.

Very truly yours,

  
ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

Testimony of The Nature Conservancy of Hawai'i  
Supporting HB 444 HD1 Relating to Onsite-Non-Potable Water Reuse Systems-  
Senate Committee on Agriculture and Environment  
Wednesday, March 27, 2019, 1:46 PM, Room 224

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*The Nature Conservancy of Hawai'i is a non-profit conservation organization dedicated to the preservation of the lands and waters upon which all life depends. The Conservancy has helped protect more than 200,000 acres of natural lands in Hawai'i and Palmyra Atoll. We manage 40,000 acres in 13 nature preserves and work in over 30 coastal communities to help protect the near-shore reefs, waters and fisheries of the main Hawaiian Islands. We forge partnership with government, private parties and communities to protect forests and coral reefs for their ecological values and the many benefits they provide to people.*

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The Nature Conservancy supports HB 444 HD1

Easily available fresh water is not a limitless resource here in the middle of the Pacific. Several locations in the state have experienced prolonged drought in recent years. Science indicates that the likely effects of climate change in Hawai'i will include:

- More frequent and more severe storms that can increase runoff and siltation; but
- Overall, less rainfall in many locations and therefore less fresh water; and
- Higher temperatures that affect watershed health and can be beneficial to pests.

Hawai'i is already exhibiting telltale signs of climate change. UH's Rainfall Atlas catalogues a century of declining rainfall and fewer trade wind days. Summer temperature records have been broken across the state and a record number of storms have taken aim at Hawai'i over the last few years.

In response to these conditions, we must plan and implement mitigative and adaptive measures to ensure the resilience of our natural and human systems. Healthy Hawaiian forests that are not overrun by invasive species act like a sponge, collecting rain and moisture, slowly delivering fresh water into streams and aquifers, absorbing greenhouse gases, and reducing runoff and siltation into near shore waters during storm events.

Additionally, we must improve efficiencies and reuse of our fresh water resources, including through the types of on-site non-potable water reuse systems that will be guided by Department of Health rules contemplated in this measure.

Thank you.

BOARD OF TRUSTEES

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ONE WORLD ONE WATER  
677 Ala Moana Blvd, Suite 1100  
Honolulu, Hi 96713

Testimony in Support of HB444 HD1  
Relating to the Onsite Nonpotable Water Reuse Systems

Senate Committee on Agriculture and Environment  
March 27<sup>th</sup>, 2019  
1:46pm  
Conference Room 224

**Subject:** House Bill (HB) 444 HD1 Relating to Onsite Nonpotable Water Reuse Systems

Aloha Chair Gabbard, Vice Chair Ruderman, and Members of the Senate Committee on Agriculture and Environment

At One World One Water we are dedicated to reinvesting in water infrastructure and restoring natural environments, and we strongly support **HB444 HD1** which requires the Department of Health to adopt the National Blue Ribbon Commission for Onsite Non-potable Water Systems rules by January 1, 2021.

Water reuse has been recognized internationally as a strategy for combatting climate change, drought, and reduced fresh water supplies. Since other states have also recognized the benefits of water reuse there has been a lot of research conducted on the safest and most efficient designs of reuse systems. At the forefront of research is the National Blue Ribbon Commission for Onsite Non-Potable Water Systems, a nationally recognized partnership made up of representatives from municipalities, public health agencies, water utilities along with support from the Water Research Foundation, Water Environment & Reuse Foundation, and the US Water Alliance.

In order to safely and efficiently excel water reuse in Hawaii we greatly support **H.B. 444 HD1** which requires Hawaii Department of Health to adopt the National Blue Ribbon Commission Guidebook. We're confident that this resource will help guide Hawaii in developing and implementing regulations and oversight programs for onsite non-potable water systems that are both scientifically rigorous and protective to public health.

Please contact us at [globalwater@gmail.com](mailto:globalwater@gmail.com) should you have any questions or require additional information regarding this matter.

Sincerely,  
*One World One Water*



Email: [communications@ulupono.com](mailto:communications@ulupono.com)

SENATE COMMITTEE ON AGRICULTURE & ENVIRONMENT  
Wednesday, March 27, 2019 — 1:46 p.m. — Room 224

**Ulupono Initiative Supports HB 444 HD 1, Relating to Onsite-Non-Potable Water Reuse**

Dear Chair Gabbard, Vice Chair Ruderman, and Members of the Committee:

My name is Murray Clay and I am Managing Partner of Ulupono Initiative, a Hawai'i-based impact investment firm that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally produced food; increase affordable, clean, renewable energy; and better manage waste and fresh water resources. Ulupono believes that self-sufficiency is essential to our future prosperity and will help shape a future where economic progress and mission-focused impact can work hand in hand.

**Ulupono supports HB 444 HD 1**, which requires the Department of Health to adopt rules for onsite non-potable water reuse systems, because it aligns with our goal of preserving Hawai'i's water resources.

Water is the most important natural resource and critical to the survival of the people of Hawai'i. Therefore, water must be protected and managed in a diligent manner. Water reuse is often the most environmentally prudent method of caring for our fresh water supply. Climate change, which has led to a 23 percent decrease in rainfall on O'ahu from 1980 to 2010<sup>1</sup>, highlights the need for water preservation measures.

As Hawai'i's water issues become increasingly complex and challenging, we appreciate this committee's efforts to look at policies that protect our water resources.

Thank you for this opportunity to testify.

Respectfully,

Murray Clay  
Managing Partner

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<sup>1</sup> Board of Water Supply 2016 Water Master Plan,  
<https://www.boardofwatersupply.com/bws/media/files/water-master-plan-final-2016-10.pdf>





## HAWAI'I COMMUNITY FOUNDATION

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### COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Senator Mike Gabbard, Chair

Senator Russell E. Ruderman, Vice Chair

Date: Wednesday, March 27, 2019

Time: 1:46 pm

Place: Conference Room 224

Re: HB 444 HD1 (HSCR857) Relating to Onsite Non-Potable Water Reuse Systems

The Fresh Water Initiative strongly supports **H.B. 444** which requires the Department of Health to adopt the National Blue Ribbon Commission for Onsite Non-potable Water Systems rules.

Last year various agencies across the state were brought together to form the Water Reuse Task Force in an effort to scale water reuse across the state. Water reuse has been identified as a key strategy for water security and is part of Hawaii's Fresh Water Initiative - the statewide goal of reaching 100 million gallons per day in additional, reliable fresh water capacity by 2030.

Since other states have also recognized the benefits of water reuse there has been a lot of research conducted on the safest and most efficient designs of reuse systems. At the forefront of research is the National Blue Ribbon Commission for Onsite Non-Potable Water Systems, a nationally recognized partnership made up of representatives from municipalities, public health agencies, water utilities along with support from the Water Research Foundation, Water Environment & Reuse Foundation, and the US Water Alliance.

With the goal of supporting the adoption of onsite recycled water, the National Blue Ribbon Commission has developed 'A Guidebook for Developing and Implementing Regulations for Onsite Non-potable Water Systems'. Created by and for utility leaders and state and local public health regulators, this guidebook presents a concrete and actionable framework that localities can utilize for regulating and managing onsite non-potable water systems based on best-in-class science and research. Having a consistent policy framework across cities and states is one of the best ways that we can integrate onsite systems in a way that protects public health and meets our water needs.

Since there are currently no national standards for onsite non-potable water systems in the United States, these guidelines provide vetted public health-based standards and a streamlined permitting process. In order to safely and efficiently excel water reuse in Hawaii we greatly support **H.B. 444 HD1** which requires Hawaii Department of Health to adopt the National Blue Ribbon Commission Guidebook by January 1, 2021. We're confident that this resource will help

guide Hawaii in developing and implementing regulations and oversight programs for onsite non-potable water systems that are both scientifically rigorous and protective to public health.

Should you have any questions about this testimony, please feel welcome to contact me at [dokano@hcf-hawaii.org](mailto:dokano@hcf-hawaii.org).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Dana Okano', with a stylized flourish at the end.

Dana Okano, PhD, AICP  
Program Director of Strategies, Initiatives and Networks  
Hawai'i Community Foundation





March 26, 2019

**COMMITTEE ON AGRICULTURE AND THE ENVIRONMENT**

**TESTIMONY IN SUPPORT of HB444, HD1**

Dear Chair: Senator Gabbard,

Roth Ecological Design Intl. (REDI) provides strategic water planning and integrated water management design. We believe responsible and sustainable water management is a key component of sustainable development and protecting natural resources for future generations. As Hawaii continues to develop, there is expected to be increased demands on our precious water supplies and, moreover, research regarding the impacts of climate change in the Hawaiian Islands suggest a significant decline in participation over the next decades. It is imperative to implement water reuse projects that will support the sustainable management of our water resources. The National Blue Ribbon Commission has provided a solid framework for Hawaii to implement nonpotable water reuse based on research, science and practice and REDI **strongly supports** its adoption by the Hawaii Department of Health.

I'd also like to acknowledge that this bill upholds the Hawaii State Constitution by helping to protect water resources for the benefit of the people and Hawaii's native ecosystems that rely on clean water.

Sincerely,

Lauren C. Roth Venu  
President  
808-781-7583  
lauren@rothecological.com



**LATE**

# LiUNA!

TESTIMONY OF RYAN K. KOBAYASHI GOVERNMENT AND  
COMMUNITY RELATIONS DIRECTOR HAWAII LABORERS  
UNION LOCAL 368

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Secretary-Treasurer*

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*Vice President*

TONI FIGUEROA  
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*Executive Board*

MARTIN ARANAYDO  
*Auditor*

RUSSELL NAPIHA'A  
*Auditor*

MARK TRAVALINO  
*Auditor*

ALFRED HUFANA JR.  
*Sergeant-At-Arms*

COMMITTEE ON AGRICULTURE AND THE ENVIRONMENT

NOTICE OF HEARING

DATE: Wednesday, March 27, 2019

TIME: 1:46 p.m.

PLACE: Room 224

IN SUPPORT OF THE INTENT OF HB444 HD1

ALOHA COMMITTEE CHAIR GABBARD, VICE-CHAIR RUDERMAN;

My name is Ryan K. Kobayashi, Government and Community Relations Director for the Hawaii Laborers Union, Local 368. The Hawaii Laborers Union is made up of over 5000 working and retired members across the State of Hawaii. We support the INTENT of HB444 HD1 in its purpose of saving potable water by promoting water reuse.

Water reuse or recycling takes many forms, while this Bill looks at developing onsite water reuse regulations we feel that there are several problems with this concept and there are other 'safer' means of capturing and recycling water that would help the State more effectively conserve its potable water supply, while meeting its water reuse goals.

First of all, while we do not doubt that the technology exists to provide clean onsite non-potable water to our State, we feel that onsite water recycling can be a problem as human error in the construction, installation, or maintenance individual units can come into play regardless of any statutes, regulations, ordinances, or "best practices" are promulgated.

The potential for tens or hundreds of these individual onsite non-potable water reuse systems scattered throughout our State and clustered in densely populated communities contemplated systems being pressed into service via HB444 HD1 increases the chances that an onsite system somewhere will not be properly constructed, installed or maintained and could cause an outbreak of illness or disease. It only takes one system of tens or hundreds that is not properly constructed, installed, maintained or neglected to cause localized or widespread outbreak of disease.

Therefore, we feel that if water is to be harvested for non-potable uses it should be done on an infrastructure scale where capture and distribution systems are constructed under the supervision of government entities and maintained by government. This way the government can ensure the proper construction, maintenance, and water quality of any

LiUNA Local 368  
1617 Palama Street  
Honolulu, HI 96817  
Phone: (808) 841-5877  
Fax: (808) 847-7829  
www.local368.org

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non-potable water capture, reuse, and distribution in the interest of the general **Health and Safety** of the public.

Additionally, we feel that if a new task force is formed to examine storm water, rainwater, from an Infrastructure based standpoint, the uses for the captured water **can also be used for agriculture** purposes as opposed to merely onsite uses.

Storm water and rainwater capture can on a large scale infrastructure level, also help to ease coastal flooding issues due to sea level rise and other climatic and/or natural or man-made events. For example, water could potentially be harvested from large catchment basins or various estuaries that feed into the Ala Wai Canal for reuse. This creates a **win-win-win** situation for conservation of potable water sources, non-potable reuse purposes, and Ala Wai/Waikiki flood prevention as well as other low-lying coastal areas prone to flooding especially in the instance of a large rain events.

Additionally, there is **Federal Funding** available to the State to help implement large scale storm water and rainwater capture and reuse on an **infrastructure level**. We feel that the State could miss the opportunity to capture these Federal monies if it were to implement HB444 HD1 as written without first exploring the possibilities and funding available.

Therefore, while the Hawaii Laborers' Union **supports the INTENT** of HB444 HD1 and supports the concept of storm water and rainwater capture for reuse. However, we feel that the concepts and alternatives have not been thoroughly addressed and respectfully request that this committee **defer HB444 HD1**.

Thank you for the opportunity to offer this testimony.

**LATE**

**HB-444-HD-1**

Submitted on: 3/27/2019 1:12:06 PM

Testimony for AEN on 3/27/2019 1:46:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	Testifying for O`ahu County Democrats Committee on Legislative Priorities	Support	No

Comments:

**HB-444-HD-1**

Submitted on: 3/26/2019 8:55:15 AM

Testimony for AEN on 3/27/2019 1:46:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Ian Tierney	Individual	Support	No

Comments:

Aloha Chair Gabbard, Vice Chair Ruderman, and Committee Members,

I support HB444 HD1 that requires DOH to adopt rules for on-site non-potable water reuse which will help Hawaii increase water usage safely and effectively.

I believe the DOH should be given two years to complete the task, which is an adequate amount of time given their resources.

I am also on the board of the US Green Building Council Hawaii Chapter, which exists to create an environmentally and socially responsible, healthy and prosperous quality of life for all in Hawaii through the transformation of the built environment and the way it is planned, designed, constructed and operated. I have spoken with owners and designers who would like to utilize on-site non-potable water in their projects. They agree that DOH needs to adopt regulations that increase re-use. A few new LEED certified buildings in the state have on-site reuse projects installed and operating. Examples that come to mind include University of Hawaii Palamanui, and University of Hawaii West Oahu Admin & Allied Health Facility. Both buildings were designed and built to capture and re-use water, and work as designed based on tours led by the designers.

Thank you,

Ian Tierney

Honolulu 96816



**HB-444-HD-1**

Submitted on: 3/26/2019 12:37:12 PM

Testimony for AEN on 3/27/2019 1:46:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Danya Hakeem	Individual	Support	No

Comments: